

Application No. 10/021,080
Response Dated 02/20/2006
Reply to Office Action of 11/01/2005

PATENT

Agent's Docket No. 11922-US

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A run-time expandable network management and service provisioning framework for use in a network management and service provisioning system, the framework comprising:
 - a. a plug-in registry ~~for configured to load and register at run-time registration~~ of at least one enabling-technology plug-in ~~brokering which brokers~~ access to network management and service provisioning enabling technologies, the plug-in having an associated run-time loadable lexical analyzer stub;
 - b. a directive parser ~~for processing configured to process, at run-time,~~ at least one self-contained managed data network entity specification file including directives;
 - c. an executable code implementation of a single managed entity object class, the single managed entity object class being run-time derivable via type derivation into a derivation hierarchy of managed data network object types based on a ~~first-run-time~~ parsed entity derivation directives;
 - d. a generic lexical analyzer run-time augmented with the lexical analyzer stub associated with the registered plug-in, the augmented lexical analyzer processing, ~~at run time,~~ an ~~enabling-technology enabling-technology-specific~~ second-use directive parsed from the managed data network entity specification file; and

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- e. ~~an a message~~ interpreter ~~for processing, at run-time,~~ messages received from at least one network management and service provisioning software application, the message including a ~~third software application~~ directive employed to invoke at least one method of a corresponding managed data network object instance of a derived managed data network object type to access a corresponding field installed managed data network entity via the enabling technology plug-in;

a separation be[ing] achieved between managed data network entities, enabling technologies and software applications, the separation enabling independent development, maintenance and troubleshooting of network management and service provisioning deployments minimizing the need to re-code and re-compile framework code in support of new managed entity object types.

2. (currently amended) A network management and service provisioning framework as claimed in claim 1, wherein the single managed object class is an abstract managed entity object class.
3. (currently amended) A network management and service provisioning framework as claimed in claim 1, wherein a derived managed data network object type in the derivation hierarchy includes the specification of at least one attribute.
4. (currently amended) A network management and service provisioning framework as claimed in claim 1, wherein the at least one ~~self-self~~-contained managed data network entity specification file includes a human readable file.
5. (currently amended) A network management and service provisioning framework as claimed in claim 4, wherein the human readable file is an attribute file holding attributes corresponding to a single managed entity object type derivable at run-time in one of a direct and an indirect manner from the single managed entity object class.

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6. (currently amended) A network management and service provisioning framework as claimed in claim ~~4~~ 3, wherein the first entity derivation directive includes an attribute specification.
7. (currently amended) A network management and service provisioning framework as claimed in claim 6, wherein the attribute specification further specifies managed entity data network object type inheritance.
8. (currently amended) A network management and service provisioning framework as claimed in claim 1, wherein the network management and service provisioning enabling technologies include support for at least one of a persistence method and a persistence entity.
9. (currently amended) A network management and service provisioning framework as claimed in claim 1, wherein the second use directive further specifies a command sequence to be followed in using a specific registered enabling technology.
10. (cancelled)
11. (cancelled)
12. (currently amended) A method of effecting ~~[[a]]~~ network management and service provisioning within a network management and service provisioning computing environment of a network management and service provisioning system including a network management and service provisioning framework, the method comprising steps of:
 - a. parsing directives from at least one managed data network entity specification file loaded by the framework;

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- b. deriving, at run-time, a single managed entity object class into a managed entity object type derivation hierarchy of at least one managed data network object type via type derivation in accordance with ~~a first~~ an entity derivation directive parsed at run-time from the managed data network entity specification file;
- c. ~~loading and~~ registering with a plug-in registry network management and service provisioning framework at least one enabling technology plug-in brokering access to at least one network management and service provisioning enabling technology, the plug-in having an associated run-time loadable lexical analyzer stub;
- d. augmenting, at run-time, a generic lexical analyzer with the lexical analyzer stub of the registered plug-in, the augmented lexical analyzer processing ~~an enabling technology~~ a parsed enabling-technology-specific-second-parsed use directive; and
- e. processing at least one message received by the framework from at least one network management and service provisioning software application, the message including a ~~third~~ software application directive employed to invoke at least one operation of a corresponding managed data network object instance of a derived managed data network object type to access a corresponding field installed managed data network entity via the enabling technology plug-in;

the framework acting as an enabler by separating managed data network entities, enabling technologies and software applications, as well acting as a facilitator therebetween in providing the network management and service provisioning while minimizing the need to re-code and re-compile framework code in support of new managed entity object types.

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13. (previously presented) A method as claimed in claim 12, wherein processing the at least one message received by the framework, the method comprises a further step of deriving a containment hierarchy of managed data network object type instances corresponding to field installed data network equipment.
 14. (previously presented) A method as claimed in claim 12, wherein registering the at least one plug-in, the method further comprises a step of run-time registering the at least one plug-in.
 15. (original) A method as claimed in claim 14, wherein run-time registering the at least one plug-in, the method further comprises a prior step of: selecting the at least one plug-in for registration thereof.
 16. (previously presented) A method as claimed in claim 12, wherein prior to parsing the at least one managed data network entity specification loaded by the framework, the method further comprises a step of: run-time loading the at least one managed data network entity specification.
 17. (original) A method as claimed in claim 16, wherein run-time loading the at least one managed data network entity specification, the method further comprises a prior step of: selecting the at least one managed data network entity specification.
 18. (previously presented) A method as claimed in claim 12, wherein parsing, the method further comprises a step of: extracting at least one directive from the at least one managed data network entity specification, the at least one managed data network entity specification being associated with at least one managed entity object type.
 19. (original) A method as claimed in claim 12, wherein deriving the single managed entity object class via type derivation, the method further comprises a step of setting at least one attribute.

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20. (original) A method as claimed in claim 12, wherein prior to processing the at least one message received by the framework from the at least one software application, the method further comprises a step of: registering the at least one software application with the framework.
21. (cancelled)
22. (currently amended) A method as claimed in claim 12, wherein implementing the ~~third software application~~ directive, the method further comprises a step of: instantiating a ~~{s}~~-managed entity object type~~{s}~~.
23. (currently amended) A method as claimed in claim 21, wherein implementing the one of the ~~second use~~ and the ~~third software application~~ directive the method further comprises a step of: effecting a change in a network state of a managed data transport network in a realm of management.
24. (original) A method as claimed in claim 12, wherein subsequent to processing the at least one message received by the framework; the method further comprises a step of: sending a message to the software application.